

United States Government

Department of Energy

memorandum

DATE: February 21, 1990

REPLY TO

ATTN OF: EH-25 and EH-23

SUBJECT: Approval of the Monticello, Utah, Uranium Mill Tailings Remedial
Action: Combined NEPA and CERCLA Documents

TO: Leo P. Duffy, EM-1
Director, Office of Environmental
Restoration and Waste Management

This is in response to your February 15, 1990, memorandum requesting EH approval of the Remedial Investigation/Feasibility Study-Environmental Assessment (RI/FS-EA) and issuance of a Finding of No Significant Impact (FONSI), and concurrence in your release of the RI/FS-EA to the Environmental Protection Agency (EPA) and the State of Utah.

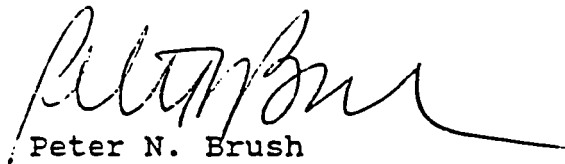
The Office of Environment, Safety and Health has reviewed the RI/FS-EA in accordance with our responsibilities under the Department of Energy Order 5440.1C regarding compliance with the National Environmental Policy Act (NEPA). Based upon my staff's review and analysis and its recommendations, and after consultation with the Office of General Counsel, I have determined that this document adequately satisfies the purposes of NEPA and, accordingly, can be issued as an Environmental Assessment (EA). Further, the proposed action is not a major Federal action significantly affecting the quality of the human environment, within the meaning of NEPA. Therefore, the preparation of an environmental impact statement is not required. The basis for the determination is explained in the attached FONSI, which incorporates the Floodplain Statement of Findings.

My office has also reviewed the RI/FS-EA with respect to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The document accurately demonstrates compliance with the requirements of CERCLA and reflects the comments on the Draft RI/FS-EA of both EPA and the State. I concur with your plan to release the RI/FS-EA to EPA and the State of Utah.

The Office of Environmental Restoration and Waste Management is responsible for providing public notice of the availability of the RI/FS-EA and FONSI as required in Section 1506.6 (b)(3) of the Council on Environmental Quality Regulations for Implementing

the procedural provisions of NEPA. Since the public and State were provided an opportunity to review and comment on the RI/FS-EA in December 1989, consistent with the mandate of SEN-15-90, and because stipulated penalties could accrue should the RI/FS-EA not be forwarded to EPA and the State by February 22, 1990, a second round of pre-approval review and comment will not be necessary.

Please send five copies of the RI/FS-EA and a copy of the distribution list to the Office of NEPA Project Assistance for our files.



Peter N. Brush
Acting Assistant Secretary
Environment, Safety and Health

Attachment

AGENCY: U.S. Department of Energy

ACTION: Finding of No Significant Impact and Floodplain
Statement of Findings for the Monticello Remedial Action Project,
Monticello, Utah

SUMMARY: The U.S. Department of Energy (DOE) has prepared a Remedial Investigation/Feasibility Study-Environmental Assessment (RI/FS-EA, DOE/EA-0424) for the site characterization and proposed remediation of uranium mill tailings and other contaminated materials at the Monticello Millsite in Monticello, Utah. The RI/FS-EA was completed to satisfy requirements of both the Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act (CERCLA/SARA) and the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.). The environmental impacts expected from each remediation alternative for the Monticello Remedial Action Project (MRAP) are described in the RI/FS-EA. Having reviewed the analyses and conclusions of the RI/FS-EA, DOE has determined that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA. The Department is issuing this Finding of No Significant Impact (FONSI) to document that the proposed action for the Monticello Millsite and associated properties has been evaluated in the RI/FS-EA. The

Department concludes that there is no need to prepare an environmental impact statement.

BACKGROUND: The Monticello Millsite is a 78-acre inactive uranium and vanadium processing mill located in southeast Utah in San Juan County. The millsite is adjacent to the City of Monticello, which has a population of approximately 1,900. The site lies in a gently sloped alluvial valley formed by Montezuma Creek, a small intermittent stream with headwaters in the Abajo Mountains immediately west of Monticello.

Operated between 1942 and 1946 by the Vanadium Corporation of America, the mill was purchased in 1948 by the U.S. Atomic Energy Commission. It was one of the earliest uranium mills to operate on the Colorado Plateau and was at the forefront of development in uranium milling technology throughout its operation. The radioactive and nonradioactive properties of the tailings at the site reflect the various processing technologies used during the operation of the mill.

In 1978, under the authority of the Atomic Energy Act, DOE initiated the Surplus Facilities Management Program (SFMP) to ensure safe caretaking and decommissioning of Government facilities that had been retired from service but still had radioactive contamination. The Monticello Millsite was accepted

into the SFMP in 1980. The MRAP was then established to restore the Government-owned millsite to safe levels of radioactivity and to dispose of or contain the tailings in an environmentally safe manner. MRAP is currently conducted by the Grand Junction Projects Office of DOE.

The passage of SARA placed additional administrative requirements for SFMP activities at Monticello under the regulatory framework of CERCLA. This included the requirement of entering into a Federal Facilities Agreement with the U.S. Environmental Protection Agency (EPA). The Hazard Ranking System (HRS) score for the millsite is above the 28.5 score necessary for its inclusion on the National Priorities List (NPL). EPA proposed the inclusion of MRAP on the NPL in 54 FR 29820, dated July 14, 1989; the site has since been listed on the NPL.

In April 1989, DOE prepared a draft RI/FS-EA document for the Monticello Millsite. The final RI/FS-EA was prepared after a public comment period. The RI/FS-EA describes and characterizes the site, provides an assessment of the extent of radioactive and nonradioactive contamination, and presents a health risk assessment. In addition, the RI/FS-EA includes analyses sufficient to enable the Department to assess the impacts of the remedial action alternatives considered in terms of the requirements of NEPA. Therefore, the RI/FS-EA serves as

an Environmental Assessment (EA) for the purposes of NEPA, and satisfies the RI/FS requirements of CERCLA/SARA.

Both radioactive and nonradioactive substances are contained in tailings-related materials at the Monticello millsite.

Radiologic constituents of concern include products of the uranium-238 decay cycle, including radium-226. Nonradiologic constituents typically found in the mill tailings include most of the trace elements, specifically antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, thallium, vanadium, and zinc. With the exception of molybdenum, all of these trace elements are listed as hazardous substances at 40 CFR 302.4.

The tailings and associated contaminated material present a potential threat to human health and the environment. An estimated 1.5 million cubic yards of tailings and contaminated substrate exist on the millsite. Contamination from the millsite has been spread to the local community ("vicinity properties") and properties peripheral to the site ("peripheral properties"). Tailings have been used for construction material, dispersed by the wind to land adjacent to the millsite, and have contaminated the surface and ground water of peripheral properties downgradient from the site. Peripheral properties contain an estimated additional 300,000 cubic yards of contaminated material, and vicinity properties in Monticello account for an

estimated 100,000 cubic yards (the latter will be relocated to the millsite under a separate action).

PROPOSED ACTION: The proposed action consists of stabilizing tailings on site (south of the existing piles), removing contaminated materials from peripheral properties, and restoring ground water either by active collection, treatment, and discharge, or passive restoration (natural flushing) and institutional controls.

The tailings piles, peripheral properties, and ground water were designated as "operable units," and remediation alternatives were developed and evaluated for each. The three alternatives considered for remediation of the tailings piles (Operable Unit 1) were: (1) onsite stabilization south of the present site, (2) stabilization at an offsite licensed facility, for example, White Mesa Mill in Blanding, Utah, and (3) no action. Four alternatives were evaluated for remediation of contaminated peripheral properties (Operable Unit 2): (1) removal of contaminated material by conventional construction equipment, for example, bulldozers, (2) removal using environmentally sensitive techniques (hand excavation or high-suction vacuum equipment) in areas that have environmental significance, for example, mature dense vegetation, (3) application of supplemental standards on a case-by-case basis in areas where remedial action would cause

undue environmental damage or the costs of remedial action would be unreasonably high in comparison to the derived environmental and health effects, and (4) no action. The four alternatives considered for remediation of ground water (Operable Unit 3) were: (1) active ground-water collection, treatment, and discharge; (2) active ground-water collection and evaporation; (3) passive restoration with institutional controls; and (4) no action.

Standards promulgated for the implementation of the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978 at 40 CFR Part 192 are used as relevant and appropriate requirements for remediation of the millsite and peripheral properties.

Onsite Stabilization South of Present Site: The proposed action will relocate the mill tailings to property immediately south of and adjacent to the present millsite. DOE does not own this area and will have to purchase approximately 40 acres. The area consists primarily of peripheral properties partially contaminated with wind-blown tailings and is used primarily for dry-land wheat or bean farming and pinyon-juniper open range. Because the property is partially contaminated, it is being considered as part of the "site" under CERCLA/SARA. Stabilization of the tailings on this south-side property is therefore considered onsite management.

The stabilized tailings pile (or repository) will contain approximately 1.9 million cubic yards of tailings and contaminated materials and will cover approximately 40 acres of disposal area. Components of the conceptual repository design, conforming with the requirements delineated in UMTRCA, include excavation of the site through removal of the overburden soils from 30 to 50 feet below the existing surface elevations. Tailings will be placed in compacted lifts, the most contaminated material being placed at the bottom and the least contaminated material (from peripheral properties) placed on top. To attenuate radon gas, a cover of 6 feet of compacted soil and 1 foot of clay will be used.

To protect the radon cap and prevent ground-water contamination, the final cover design follows the latest Uranium Mill Tailings Remedial Action Project design research and includes an impermeable membrane (hydraulic conductivity of 10^{-9} cm/sec) to prevent water from infiltrating through the tailings and leaching out contaminants. On top of this infiltration barrier will be 6 inches of clean sand. Overlying the sand will be a biointrusion barrier consisting of a buried layer of cobbles, a feature that greatly reduces root penetration and animal burrowing. A filter rock layer will be placed along the top surface to prevent soil fines from moving into the biointrusion barrier.

The remaining cover material consists of compacted soil, which

will serve as a growth medium for plants and provide frost protection for the radon barrier. The vegetation will remove infiltrating precipitation by transpiring the moisture back into the atmosphere, thus greatly reducing the amount of water that may drain into underlying wastes and subsequently transport contaminants to ground water.

During construction, larger than normal quantities of water will pass through the tailings repository from rainfall, snow melt, dust control, and compaction water. Because this water volume alone could exceed the volume that will pass through the pile over the 1,000-year life of the repository, a clay liner will be placed within the repository cell on both the bottom and side slopes. This clay layer will prevent contamination of the underlying soil and will control any lateral migration of radon gas. The cell bottom will be sloped to a common low point and be covered with 6 inches of washed gravel. Drain pipes and a sump and pump system will be installed to remove water for recycling as compaction water, or for treatment in accordance with governing regulations and permits. This system will operate for several years beyond the closure of the repository to remove contaminated water.

During the remedial action process, it will be necessary to control windblown contamination during the winter (approximately 5 months) when construction will be temporarily discontinued. A

dust suppressant and erosion inhibitor will be sprayed over the existing tailings pile and over the repository pile at the end of each construction season. A security fence will limit access by people and large animals.

After tailings removal, reclamation of the existing tailings area will involve reconstructing the Montezuma Creek channel to its historic location to accommodate both average stream flow and a minimum of a 100-year inflow design flood event. Areas excavated during tailings removal will be backfilled with clean material from the disposal area and will be graded to provide proper surface drainage. Site grading will be followed by revegetation.

Peripheral Properties: Peripheral properties encompass nearly 240 acres of private and public property adjacent to the millsite. These properties include former ore-buying stations and areas contaminated by windblown and waterborne tailings from the millsite. The total volume of contaminated soil associated with the peripheral properties is approximately 300,000 cubic yards.

Contaminated peripheral properties consist of various land types, including irrigated farmland, steep pinyon-juniper hillsides, sagebrush-covered hillsides, dry-land pasture, portions of the Montezuma Creek bed and banks, buildings, and the Monticello Cemetery. Remedial action methods will therefore depend on the

degree of contamination and the environmental consequences associated with remediating specific land types. The proposed action consists of a combination of removal by environmentally sensitive construction practices, removal by conventional construction techniques, and supplemental standards application.

Environmentally sensitive construction techniques will be used on peripheral properties with dense natural vegetative cover. Hand excavation, and possibly high-suction vacuum equipment, will be used to remove contaminated soils in significant wildlife habitat areas. In the Montezuma Creek canyon, creek flow will be diverted from the construction area to minimize sediment transport, and the creek-bottom ecosystem will be reestablished after contamination removal.

Where necessary, conventional construction techniques will be used to remove contaminated soil from specific areas, including those previously disturbed, such as farmland. A combination of conventional and environmentally sensitive construction techniques will be used on several properties.

Supplemental standards, which allow leaving contamination in place as identified in 40 CFR Part 192.22, will be applied to areas where remedial action would cause undue environmental damage, or where remediation costs would be unreasonably high in comparison to the derived environmental and health benefits.

These areas include the Monticello Cemetery and upper and lower Montezuma Creek.

Ground Water: Ground water will be remediated by either active or passive treatment. Active restoration is estimated to be completed in 15 years; institutional controls would be implemented to prohibit use of ground water during this time. Passive restoration would be achieved within 60 years; institutional controls would be implemented to prevent access to the ground water during this period. Restoration of the alluvial aquifer by either method will necessarily result in reduced levels of contamination in Montezuma Creek because of the hydraulic connection between the aquifer and the creek.

Active treatment would begin with the collection of alluvial ground water by a system of interceptor drains that would collect onsite and offsite contaminated ground water. The drains would discharge into a sump containing a submersible pump that would discharge to the treatment facility. Removal of ground water in this manner would significantly reduce ground water discharge and would improve the downstream surface-water quality in Montezuma Creek.

Active treatment of ground water would be performed by a desalination process, such as reverse osmosis, or by evaporation. Treatment by reverse osmosis involves a pre-sedimentation pond,

pH control, aeration and filtration, reverse osmosis, and discharge to a lined evaporation pond. The sludge would eventually be dried, analyzed for chemical constituents, and removed to a site licensed to accept it. During the active remediation period, ground-water monitoring and treated effluent monitoring would be performed.

Treatment by evaporation would involve pumping from the collection sump directly to a lined evaporation pond. The sludge produced would be analyzed, dried and transported to a licensed disposal facility. Passive restoration, as allowed under 40 CFR Part 192, would involve natural flushing of the contaminated water and use of legally enforceable institutional controls. Based on hydrologic investigations of the site, passive restoration would occur within 60 years, a timeframe well within the proposed UMTRCA standard of 100 years. This treatment method would achieve the same results as would active ground-water treatment, but in a longer time period, and without the generation of sludge.

ENVIRONMENTAL IMPACTS: The RI/FS-EA evaluated environmental impacts for all alternatives under consideration. The following sections summarize the environmental consequences of the preferred alternative.

Control of Radioactivity and Nonradiologic Contaminants: The use of intrusion barriers at the stabilized tailings pile will prevent the public's direct exposure to gamma rays. Radon gas emissions will be inhibited by the cap and layered cover system placed over the tailings pile; the cover is designed for long-term protection of 1,000 years. During construction activities, dust suppression will control airborne radiologic and nonradiologic contamination. Relocation of the existing tailings piles will remove the tailings from direct contact with ground water. Remediation of peripheral properties will reduce human and environmental exposure to contaminants, and in locations where conventional construction is used for soil removal, future exposure will be eliminated entirely. Ground-water remediation, by either active or passive treatment, will reduce the radioactive and nonradioactive constituents to acceptable levels. Ground-water remediation will also result in reduced levels of contamination in Montezuma Creek.

The risk to the public and to workers during remediation has been evaluated for exposure to radiologic and nonradiologic contaminants. The additional risk to workers and to Monticello residents resulting from remedial action activities are small and well below those from natural background radiation sources. Thermoluminescent dosimeter film badges will be worn by workers and air monitoring will be conducted to determine whether respirators are required.

Inhalation and ingestion exposure doses were calculated for nonradiologic contaminants. Health effects to the public and to workers were considered to be insignificant; none of the exposure doses exceeded acceptable intakes for chronic exposures or recommended health-based levels.

Air Quality: Air quality will not be adversely affected by implementing the preferred alternative. During construction activities, dust will be suppressed. At the stabilized tailings pile, the radon cap and cover system will control radon emanation.

Water Quality: The surface- and ground-water quality will not be degraded by the proposed remedial action. Removal of the existing tailings from contact with ground water will eliminate further contamination. Collection and active restoration of the ground water will result in unrestricted use of the water and should improve surface-water quality as well. During the treatment period, existing surface-water quality should improve as a result of reduced ground-water discharge downstream in Montezuma Creek. Passive restoration of ground water will also reduce the radioactive and nonradioactive constituents to acceptable levels, and result in improved surface-water quality in Montezuma Creek.

Threatened or Endangered Flora and Fauna: Surveys of the proposed disposal site revealed no threatened or endangered plant or animal species and none are known to exist at the site.

Cultural Resources: No historical or archaeological resources are known to exist where the repository will be located. If cultural sites are discovered during the course of remedial action, an evaluation will be conducted as to their eligibility for inclusion in the National Register of Historic Places. If it is determined that an eligible area would be affected, a data recovery and mitigation plan would be developed jointly by DOE and the Utah State Historic Preservation Office.

Floodplain and Wetlands: The U.S. Corps of Engineers determined that the proposed action will affect the floodplain of Montezuma Creek and 18.63 acres of wetlands. Therefore, DOE prepared a Floodplain/Wetlands Assessment, which is included as an appendix to the RI/FS-EA; a Floodplain Statement of Findings follows this FONSI.

Alteration of the floodplain during remedial action is a concern because of the potential changes in stream elevation that could result and the consequent impacts on nearby properties. The millsite will be protected from erosion by runoff water during construction operations by means of temporary diversion ditches and evaporation ponds. Similarly, any rerouting of the stream

during remedial action would be accomplished without altering the stream elevation. Hence, any floods occurring during remedial action would have no impact beyond that expected under the present unstabilized conditions. Upon completion of remedial action, the stream channel will be reconstructed to its historic location with appropriate revegetation and erosion control measures that will enhance the aquatic ecosystem.

Noise Impact: Noise generated by haulage trucks traveling between the existing tailings piles and the repository will be at levels that could be annoying to persons along the transportation route, but occurrences will be brief at any single location. Further, all transportation will be within the boundary of the millsite and final repository.

The noise generated by onsite stabilization activity is considered to be loud at close proximity. However, the distance to the closest residence is 1,200 feet. As a consequence, the adverse effects of construction noise on nearby residents will be minimal and short term. Onsite workers will be required to follow OSHA requirements for hearing protection.

Visual Impact: Onsite stabilization south of the present site will have adverse visual impacts during construction as a relatively large number of pieces of heavy equipment move tailings south to higher ground from the Montezuma Creek bottom.

However, at the completion of remediation, Montezuma Creek will be reconstructed and revegetated to approximate its historic character. This is considered to be a positive visual impact.

The permanent repository will be located immediately south of and adjacent to the present millsite. To the person traveling Highway 191, the stabilized pile will appear as a low hill 30 to 40 feet high covering approximately 40 acres. To minimize the visual impact of the site, the shape of the repository will be contoured into the existing terrain, have shallow side slopes, and be vegetated with native grasses and other plants.

Transportation: The primary roads affected by stabilization on site will be U.S. Highway 191 and Bar Cross Road (also called Lower Cemetery Road). These routes will be used for commuting and for transporting construction equipment.

Remedial action workers traveling during normal commuter hours will add 55 vehicles to traffic, primarily on Highway 191 and possibly on U.S. Highway 666 as well. Miscellaneous trips to Monticello from the millsite will average 10 to 20 per day. These additional trips constitute an increase of less than 6 percent in current average daily traffic on Highway 191 and are considered insignificant.

Although additional truck traffic will occur temporarily in Monticello and on the main access highways, this type of traffic has long been a part of area traffic patterns, changing with the opening and closing of mines and mills in the area. Truck traffic generated by cleanup activities will not adversely affect local residents.

Population and Economy: The preferred alternative will have little effect on the existing or future (projected) population in the Monticello area. No residences will require relocation during cleanup of the peripheral properties.

The proposed action will require an average of 36 employees per month over approximately 46 months and a peak requirement of 55 employees during 15 of those 46 months. Of the maximum work force, an estimated 43 positions (construction workers and equipment operators) could be filled by residents of the Monticello area. This would constitute a short-term beneficial impact. The remaining 12 positions (supervisors and health physicists) could be filled by in-migrants. If a San Juan County employment multiplier of 1.5 is used, an additional 83 (54 average) indirect jobs would be created, many of which may be filled by residents of the Monticello area.

Relocation of the estimated 12 workers during the 15 months of peak activity will effect a temporary population increase of 3

percent. Over the entire 46 months of remedial action, however, the average population increase will be less.

Direct employment salaries will total approximately \$580,000 per year. Indirect employment salaries, paid primarily to workers in the service sectors of the economy, will account for an additional \$440,000 annually, which will bring the total direct and indirect wages and salaries to \$1,020,000 per year. These projections assume an average salary of \$10 per hour for direct employment, \$5 per hour for indirect employment, and an average work period of 6.6 months per year (although this ranges from 4 to 10 months).

ALTERNATIVES CONSIDERED: Disposing of the uranium mill tailings at a currently licensed repository was considered as an alternative in the RI/FS-EA. This option would be consistent with technical criteria that have been developed under guidance from the U.S. Nuclear Regulatory Commission (NRC), and would meet the NRC's design and operation requirements. Under this alternative, all tailings and contaminated material from the Monticello millsite and peripheral properties would be relocated to the licensed repository. Radiation control would be achieved through the terms stated in the NRC license for the existing repository; human health impacts attributable to the repository would be within limits specified in the license. Peripheral property remediation and ground-water restoration would be as

identified in the preferred alternative. Long-term health and environmental impacts due to the existing site would be negligible. However, this option relies on hauling contaminated soil over public roads to the licensed repository. The transportation impacts include increased road deterioration and a slight increase in accident risk. Numerous Federal, State, and local permits would be required.

A no-action alternative was also considered. This alternative would result in negative environmental impacts. If the tailings remain in their present unstabilized condition, they will remain subject to dispersal by wind and will continue to prevent beneficial use of the contaminated areas. This alternative would continue the existing negative impacts on water, air, and soil resulting from contamination. Also, since the tailings exist in a floodplain, the potential exists for tailings dispersion caused by flooding. The no-action alternative would require permanent restricted use of the site because exposure levels could increase significantly if land use were to change, or uncontrolled removal of the wastes were to occur. Failure to perform remedial action at the site would not satisfy EPA Standards (40 CFR Part 192), which DOE has adopted for use as guidelines for the project. Impacts to human health would be caused by exposure to radioactive elements at levels that exceed Federal and State regulations. For these reasons, the no-action alternative is not

considered a viable option, but has been evaluated for baseline comparison purposes.

DETERMINATION: The proposed remediation of the Monticello Remedial Action Project through stabilization of uranium mill tailings onsite, decontamination of peripheral properties, and remediation of ground water (by either active or passive restoration) does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act. This finding is based upon the analyses in the RI/FS-EA, as summarized above. Therefore, an environmental impact statement for the proposed action is not required.

FLOODPLAIN STATEMENT OF FINDINGS

This Statement of Findings has been prepared pursuant to Executive Orders 11988 and 11990, and 10 CFR Part 1022, "Compliance with Floodplain/Wetlands Environmental Review Requirements." In response to the Superfund Amendments and Reauthorization Act, DOE proposes to clean up mill tailings contamination on and beneath the Monticello millsite and on peripheral properties. The Monticello millsite is listed on the

National Priority List by the U.S. Environmental Protection Agency.

An estimated 1.5 million cubic yards of tailings and contaminated substrate exist on the millsite. These tailings are the result of milling for vanadium and uranium before plant closure in 1960. The tailing piles were stabilized over the period 1961 to 1962 to prevent further contamination through erosion. On the basis of the RI/FS-EA and the Floodplains/Wetlands Assessment included within that document, DOE has determined that there is no practicable alternative to the proposed activities, and that the proposed action has been designed to minimize potential harm to or within the floodplain. A map showing the location of the affected floodplain can be found in the RI/FS-EA, Figure D2-2.

The tailings piles are within the floodplain of Montezuma Creek. The piles are also partially in contact with a shallow alluvial aquifer underlying the site. This alluvial aquifer is not used as a private or public drinking water source and is separated by two aquitards (barriers) from the deeper Burro Canyon aquifer. The Burro Canyon, which is used as a drinking water supply, has not been contaminated. The alluvial aquifer is in direct hydraulic contact with Montezuma Creek downstream from the millsite. The tailings and associated contaminated material present a potential threat to human health and the environment; therefore, the site should be remediated.

The proposed action is to remove the mill tailings from the millsite where they are in contact with the ground water, thus preventing further contamination of the air, surface soil, and ground water. To control run-off, diversion structures and collection ponds will be built. The collected water will be treated by evaporation ponds or reverse osmosis and then be discharged to Montezuma Creek. Contaminated residual sludges from either of the treatment systems will be disposed of at a licensed repository. Upon completion, the millsite and repository site will be revegetated.

Two alternatives to the proposed action evaluated in the RI/FS-EA are offsite disposal at an existing licensed repository and no-action. These alternatives are described in the above FONSI.

No long-term impacts to the floodplains or wetlands are expected. No development within these areas will result from millsite or peripheral property remediation. Any impact to croplands existing within the floodplain on peripheral properties will be mitigated according to agreements made with property owners before remediation.

Short-term impacts to the floodplain/wetlands include temporary modification of wetlands in areas where conventional construction is proposed for tailings removal. In areas where environmentally

sensitive construction is proposed, floodplain/wetlands impacts will be minimal. Where supplemental standards are proposed, as in the canyon area of lower Montezuma Creek, floodplain/wetlands will not be affected because tailings would be left in place. The project will result in no net loss of wetlands.

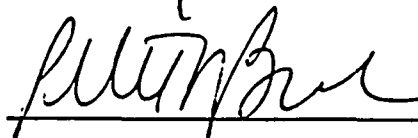
The remedial action has been designed to conform to applicable Federal and state regulations. Before construction begins, applicable permits and approvals would be obtained from appropriate Federal agencies, such as the U.S. Army Corps of Engineers, Utah state agencies, and other agencies having jurisdiction. Initial consultation with Federal and State agencies has taken place.

SINGLE COPIES OF THE RI/FS-EA ARE AVAILABLE FROM: U.S.
Department of Energy,
Grand Junction Projects Office, P.O. Box 2567, Grand Junction,
Colorado 81502-2567, (303) 248-6000.

FOR FURTHER INFORMATION ON THE NEPA PROCESS CONTACT: Carol M.
Borgstrom, Director, Office of NEPA Project Assistance, Office of

the Assistant Secretary for Environment, Safety and Health, Room
3E-080, Forrestal Building, Washington, DC 20585, (202) 586-
4600.

Issued at Washington, D.C., February 20, 1990.

A handwritten signature in dark ink, appearing to read "Peter N. Brush", written over a horizontal line.

Peter N. Brush
Acting Assistant Secretary
Environment, Safety and Health